Michigan Department
Of Transportation
5100B (05/13)

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

	REQUISITION NUMBER	DUE DATE	TIME DUE
	1765	5/18/2015	noon EST
MDOT PROJECT MANAGER Erik Smalley	JOB NUMBER (JN) 125834 C	CONTROL SECTION (CS) 21021,21022,21031	

DESCRIPTION
2018 Crystal Falls TSC Traffic Signal Contract

MDOT PROJECT MANAGER: Check all items to be included in RFP WHITE = REQUIRED ** = OPTIONAL Check the appropriate Tier in the box below			**CONSULTANT:** Provide only checked items below in proposal
☑ **TIER 1 ($50,000 - $150,000)**	☐ **TIER II ($150,000-$1,000,000)**	☐ **TIER III (>$1,000,000)**	
☑	☐	☐	Understanding of Service **
☑	☐	☐	*Innovations*
☑	☐	☐	Organizational Chart
☑	☐	☐	Qualifications of Team
Not required as part of Official RFP	Not required as part of Official RFP	☐	Quality Assurance/Quality Control **
☑	☐	☐	**Location:** The percentage of work performed in Michigan will be used for all selections unless the project is for on-site p=inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	☐	Presentation **
N/A	N/A	☐	Technical Proposal (if Presentation is required)
3 pages (MDOT Forms not counted) **(No Resumes)**	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP **not including key personnel resumes.** Resumes limited to 2 pages per key staff personnel.

PROPOSAL AND BID SHEET EMAIL ADDRESS – mdot-rfp-response@michigan.gov

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least five (5) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal.

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet
5100J – Consultant Data and Signature Sheet (Required only for firms not currently prequalified with MDOT)

(These forms are not included in the proposal maximum page count.)

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest (Consultant/Vendor Selection Guidelines for Services Contracts" and "Guideline for Completing a Low Bid Sheet(S)*, if a low bid is involved as part of the selection process. **Reference Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

☑ ENGINEERING SERVICES ☐ BUREAU OF TRANSPORTATION PLANNING ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☑ NO ☐ YES DATED_____ THROUGH _____

☑ **Prequalified Services** – See the attached Scope of Services for required Prequalification Classifications.

☐ **Non-Prequalified Services** – If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. **Form 5100J is required with Proposal for firms not currently prequalified with MDOT**

☑ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualification Based Selection / Low Bid** – Use Consultant/Vendor Selection Guidelines. See Bid Sheet instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted. The vendor that has met established qualification threshold and with the lowest bid will be selected.

☐ **Best Value** – Use Consultant/Vendor Selection Guidelines, See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required – no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

Bid Sheet(s) must be submitted in accordance with the "Guidelines for Completing a Low Bid Sheet(s)* (available on MDOT's website). Bid Sheet(s) are located at the end of the Scope of Services. Submit bid sheet(s) with the proposal, to the email address: mdot-rfp-response@michigan.gov. Failure to comply with this procedure may result in your bid being rejected from consideration.

PARTNERSHIP CHARTER AGREEMENT

MDOT and ACEC created a Partnership Charter Agreement which establishes guidelines to assist MDOT and Consultants in successful partnering. Both the Consultant and MDOT Project Manager are reminded to review the **ACEC-MDOT Partnership Charter Agreement** and are asked to follow all communications, issues resolution and other procedures and guidance's contained therein.

NOTIFICATION
MANDATORY ELECTRONIC SUBMITTAL

Proposals submitted for this project must be submitted electronically.

The following are changes to the Proposal Submittal Requirements:

- Eliminated the Following Requirements:
  - Safety Program
  - Communication Plan
  - Past Performance as *a separate section*
  - Separate section for DBE Statement of goals. Include information in Qualification of Team section

- Implemented the Following Changes:
  - All proposals require an Organization Chart
  - Resumes must be a maximum of two pages
  - Only Key (lead) staff resumes may be submitted
  - Tier III proposal reduced from 19 to 14 pages
  - Forms 5100D, 5100I, and 5100G combined – 5100D
  - Forms 5100B and 5100H combined – 5100B
  - RFP's will be posted on a weekly basis -- on Mondays

The following are Requirements for Electronic Submittals:

- Proposals must be prepared using the most current guidelines
- The proposal must be bookmarked to clearly identify the proposal sections (See Below)
- For any section not required per the RFP, the bookmark must be edited to include "N/A" after the bookmark title.
  Example: Understanding of Service – N/A
- Proposals must be assembled and saved as a single PDF file
- PDF file must be 5 megabytes or smaller
- PDF file must be submitted via e-mail to MDOT-RFP-Response@michigan.gov
- MDOT's requisition number and company name must be included in the subject line of the e-mail. The PDF shall be named using the following format:
  - Requisition#XXX_Company Name.PDF
- MDOT will not accept multiple submittals
- Proposals must be *received* by MDOT on or before the due date and time specified in each RFP

If the submittals do not comply with the requirements, they may be determined unresponsive.

The Consultant's will receive an e-mail reply/notification from MDOT when the proposal is received. Please retain a copy of this e-mail as proof that the proposal was received on time. **Consultants are responsible for ensuring the MDOT receives the proposal on time.**

****Contact Contract Services Division immediately at 517-373-4680 if you do not get an auto response****

Required Bookmarking Format:

I. Request for Proposal Cover Sheet Form 5100D
   A. Consultant Data and Signature Sheet, Form 5100J (if applicable)
II. Understanding of Service
   A. Innovations
III. Qualifications of Team
   A. Structure of Project Team
      1. Role of Firms
      2. Role of Key Personnel
   B. Organization Chart
   C. Location
IV. Quality Assurance / Quality Control Plan
V. Resumes of Key Staff
VI. Pricing Documents/Bid Sheet (if applicable)

2/14/12

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NOTIFICATION
E-VERIFY REQUIREMENTS

E-Verify is an Internet based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring, under Public Act 200 of 2012, Section 381, that as a condition of each contract or subcontract for construction, maintenance, or engineering services that the pre-qualified contractor or subcontractor agree to use the E-Verify system to verify that all persons hired during the contract term by the contractor or subcontractor are legally present and authorized to work in the United States.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: http://www.dhs.gov/E-Verify.

The documentation supporting the usage of the E-Verify system must be maintained by each consultant and be made available to MDOT upon request.

It is the responsibility of the prime consultant to include the E-Verify requirement documented in this NOTIFICATION in all tiers of subcontracts.

9/13/12

Michigan Department of Transportation

SCOPE OF SERVICE
FOR
TRAFFIC AND SAFETY DESIGN SERVICES

CONTROL SECTION(S): 21021, 21022, 21031

JOB NUMBER(S): 125834 C

PROJECT LOCATION: Superior Region – Crystal Falls TSC
The project is located at the following project locations:

1. 21021-02-003 US-2, US-41 @ M-69
2. 21021-01-005 US-2, US-41 (Ludington) @ 30th St.
3. 21021-01-006 US-2, US-41 @ 26th Ave.
4. 21022-01-001 US-2, US-41, M-35 (Lincoln) @ US-2, US-41 (Ludington)
5. 21022-01-008 US-2, US-41, M-35 (Lincoln) @ 3rd Ave. North
6. 21022-01-009 US-2, US-41 @ 5th Ave. North
7. 21031-01-003 M-35 (Lincoln) @ 5th Ave. South

PROJECT DESCRIPTION:
Perform signal and if needed sidewalk ramp design services for 7 signal locations as listed above.

ANTICIPATED SERVICE START DATE: June, 2015

ANTICIPATED SERVICE COMPLETION DATE: February, 2018

PRIMARY PREQUALIFICATION CLASSIFICATION:
Traffic Signal Design
Roads and Streets

SECONDARY PREQUALIFICATION CLASSIFICATION:
Road Design Survey
Right of Way Surveys
Subsurface Utility Engineering
Pavement Marking

DBE REQUIREMENT: N/A

MDOT PROJECT ENGINEER MANAGER:

Erik Smalley, Engineer Manager
Lansing, Division of Operations
6333 Lansing Road, Lansing, MI 48917
517-636-6108
smalleye@michigan.gov

REQUIRED MDOT GUIDELINES AND STANDARDS:

Work shall conform to current MDOT, FHWA, and AASHTO practices, guidelines, policies, and standards (i.e., Road Design Manual, Standard Plans, Drainage Manual, Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.).

Consultant is required to use MDOT's current version of Bentley MicroStation for CADD applications and Bentley GEOPAK for road design. Consultant shall comply with all MDOT CADD standards and file naming conventions.

GENERAL INFORMATION:

The Consultant shall furnish, to the satisfaction of the Department, all services, labor and equipment necessary to provide signal, sidewalk ramp design services, surveys and geotechnical services for the locations signal design.

The Consultant shall furnish all services and labor necessary to perform the services described herein. The Consultant will also furnish materials, equipment, supplies, and incidentals necessary to perform the services (other than those designated in writing to be furnished by the Department), and check and/or test the materials, equipment, supplies, and incidentals as necessary in carrying out this work. The services will be performed to the satisfaction of the Department consistent with applicable professional standards.

CONSULTANT RESPONSIBILITIES:

Complete the design of this project including, but not limited to the following:

The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job and perform field operations in accordance with the Department's Personal Protective Equipment (PPE) policy as stated in the MDOT Guidance Document #10118.

Meet with the MDOT Project Manager to review project, location of data sources and contact persons, and review relevant MDOT operations. The Consultant shall review and clarify project issues, data needs and availability, and the sequence of events and team meetings that are essential to complete the design by the project plan completion date. Attention shall be given to critical target dates that may require a large lead time, such as geotechnical requirements, ROW submittal dates, Railroad coordination requirements, utility conflict resolution, local agency meetings, etc.

A. Prepare plans, details, and specifications required for design and construction of electronic traffic control devices which may include all of the following:

1. Modernization plans
2. Sidewalk ramp plans (with pushbuttons as required)
3. Right-of-way (ROW) plans including:
    a. Preliminary ROW Plans
    b. Marked Final ROW Plans
    c. Property Legal Instruments
4. Temporary signal plans as required for maintaining traffic during construction.
5. Signal staging plans as required for maintaining traffic during construction.
6. Pedestrian detour plans (if typical pedestrian detour plan is insufficient) as required for maintaining traffic during construction.
7. Road design survey.
8. Right of way surveys.
9. Pavement marking plans.
10. Subsurface Utility Engineering.

B. Distribute proposed plans (as required), details (as required), and specifications (as required) at the following design stages:

1. Base plans (typically using survey file provided by MDOT)
2. Preliminary ROW plans
3. Preliminary plans
4. Final ROW plans
5. OEC plans
6. Final plans

C. Schedule, attend, and provide meeting minutes for project related meetings as directed by the MDOT Project Manager including:

1. Site review meeting.
2. Kick off meeting (via phone conference).
3. Radio Interconnect field survey (as required)
    a. Document results on the Signal Radio Survey Form #1516: **http://mdotwas1.mdot.state.mi.us/public/webforms/detail.cfm?ALLFORMS__FormNumber=1516**
4. Plan review meeting at preliminary plan stage
5. Utility coordination meeting (coordinate scheduling with utility coordinator)
    a. Provide a utility conflict summary document to the utility engineer
6. Utility coordination field meetings as required (coordinate scheduling with utility coordinator)
    a. The consultant will stake proposed foundation locations in the field prior to any field utility coordination meeting.
    b. Provide list of utility companies that should be invited for each location
    c. Provide summary of known or potential utility conflicts by quadrant for each location
7. Right-of-way meeting, if needed.
8. OEC meeting prior to plan completion.

9. Second OEC meeting, if needed.
10. For design related meetings, the consultant is responsible for inviting the following personnel:
    a. All local and maintaining agencies
    b. The following MDOT personnel:
    TSC Traffic & Safety Engineer, Region Development Engineer, TSC Construction Engineer, Utility Engineer, Electrician, Maintenance Supervisor, Region Traffic Safety & Operations Engineer, Environmental Coordinator, Region Real Estate Property Manager, Lansing Signals Design, Lansing Signals Operations, and Project Manager

D. Perform any design/coordination tasks with any railroad company involved within the project limits, including (but not limited to):
    1. Determine railroad contact person(s)
    2. Complete any applications required by the railroad company to perform the proposed traffic signal work.
    3. Coordinate with railroad company to get the requested all applications/permits needed to complete the work.

E. Compute and verify all plan quantities.

F. Provide solutions to any unique problems that may arise during the design of this project.

G. Maintain a Design Project Record which includes a history of significant events (changes, comments, etc.) which influenced the development of the plans, dates of submittals and receipt of information.

H. Prepare and submit electronically (native format or Adobe PDF) any design information or calculations.

I. The MDOT Project Manager shall be the official MDOT contact person for the Consultant **and shall be made aware of all communications regarding this project**. The Consultant must either address or send a copy of all correspondence to the MDOT Project Manager. This includes all Subcontractor correspondence and verbal contact records.

J. The Consultant shall contact the MDOT Project Manager whenever discoveries or design alternatives have the potential to require changes in the scope, limits, quantities, costs, or right-of-way of the project.

K. Submit RID documents in the required format(s).

UTILITIES

The Consultant shall be responsible for obtaining and showing on the plans the location and names of all existing utilities within the limits of the project. In the course of resolving utility conflicts, the Consultant shall make modifications to the plans or design details and provide assistance as directed by the MDOT Utility Coordinator and/or Project Manager. The Consultant shall attend any utility meetings called to ensure that the concerns are addressed on the plans involving utilities.

In addition, consultant shall be responsible for subsurface engineering.

TRAFFIC CONTROL

The Consultant shall be responsible for all traffic control required to perform the tasks as outlined in this Scope of Design Services.

MONTHLY PROGRESS REPORT

On the first Monday of each month, the Consultant Project Manager shall submit a progress report of the previous month's activities, as well as a plan for the current month's activities to the Project Manager.

MDOT RESPONSIBILITIES

MDOT staff will:

- Receive and pass on all utility information
- Assist in scheduling and conducting utility coordination meeting(s)
- Coordinate any necessary utility relocation
- Furnish Special Details and pertinent reference materials
- Provide layout request, existing signal plan (if available), and timing permits
- Review and comment on the submittals. Additional submittals may be required depending on completeness and accuracy of those submitted.

DELIVERABLES:

The Consultant shall deliver all computer files associated with the project in their native format (spreadsheets, CADD files, GEOPAK files, etc.) on DVD, CD or uploaded to FTP website, as directed by the MDOT Project Manager. All road-related CADD/GEOPAK files shall be created and identified with standard MDOT file names as shown in Appendix A of the Road Design Manual. All signal related CADD files shall be identified with standard MDOT signal file names as shown in the following link: http://mdotwas1.mdot.state.mi.us/public/tands/Details_Web/mdot_signal_consult_v8.pdf. It is the Consultant's responsibility to obtain updated MicroStation and GEOPAK seed/configuration files necessary to comply with MDOT's CADD standards which are posted to the bulletin board system. When the use of GEOPAK road design software is necessary to develop plans all pay items shall be placed into the CADD file using GEOPAK's Design and Computation Manager so that Quantity Manager can be used to transfer pay item information to SAPW/Trns*port. Any CADD/GEOPAK files that do not conform to MDOT standards will be returned to the Consultant for correction at the Consultant's expense.

Plan files shall be submitted in their native .dgn format with standard naming conventions as well as plotted into a combined Adobe PDF file. Plan sheets shall be plotted to Adobe PDF with

full text search and level on/off capabilities in 11" x 17" format (8 ½" x 11" for log jobs). A title sheet shall be plotted stamped and signed then scanned for inclusion with the Adobe PDF set. The original title sheet will be sent to the MDOT Project Manager.

Stand Alone Proposal Estimator's Worksheet (SAPW) shall be used to generate the .txt and .csv files necessary for import into the Trns*port bid letting software. The SAPW files shall be transmitted electronically by the method specified by the MDOT Project Manager.

The proposed signal plans will typically require a scale of 1"=30' when plotted to 11" x 17". Full traffic signals must also include quadrant details at a 1"=10' scale showing all utilities and proposed facilities.

Other plan sheets that are required for this project shall be completed by the Consultant. These include, but are not limited to the following plan sheets:

A. The title sheet. MDOT will provide a map of the area on a disk in our workstation format. If the map is not available, MDOT will provide a map that could be used. The Consultant shall be responsible for any revisions to the title sheet and the title sheet and map shall meet MDOT format and layout guidelines.

B. Sidewalk ramp plans with pushbuttons (as required) including existing and proposed grades

C. Right-of-way plans including:
   1. Section and government corners
   2. Consents to reconstruct sidewalk
   3. Grading limits

D. Surveys plans includes, but no limited to:
   1. Requested map scale: 1" = 30'.
   2. Topo and ADA ramp survey.
   3. Property government corners.
   4. Property legal ROW determination.
   5. For utility and drainage: surface manifestations only.
   6. For terrain mapping: hard surface shots with defining ADA ramp description.
   7. For requested project deliverables:
      - CADD/Electronic files meeting MDOT standards/WorkSpace.
      - Survey reports & deliverables electronic portfolio.
      - Contours. Contours interval = 0.50 feet.
      - 3D Microstation files.

8. Additional survey comments:

   Topographic survey includes: Intersection geometry from tangent to tangent and 200' beyond tangents; All visible utilities and all MISS DIG utility markings (note surveyor must call in MISS DIG at least 14 days prior to survey to ensure they are marked. Please inform us when MISS DIG utilities are marked).

   Right of way survey includes: Defining location of existing ROW lines; ROW information must be sufficient for acquisition of additional ROW if needed; Topographic limits must include all existing ADA ramps, all traffic signal equipment, and 20' behind ROW line; ROW survey to include staking and/or painting of ROW lines (Please notify us prior to staking/painting).

   ADA ramp survey includes: Elevations of back of curb and gutter (edge and flowline) every 3' along the radii from tangent to tangent (and 20 feet beyond any existing ramps); Any drainage (or other) structures in or adjacent to the curb and gutter must be mapped to facilitate ADA ramp design.

E. Radio interconnect plan (as required), showing location of antennas, masters, repeaters, and remotes per the completed radio survey.

F. Construction staging and maintaining pedestrian access plans including:
   1. Temporary signal plans for road or bridge projects
   2. Signal staging plans for road or bridge projects
   3. Pedestrian detour plans (if typical pedestrian detour plan is insufficient) may be included as 8 ½”x11” sheets within the maintaining traffic special provision or in the plans as 11”x17” sheets.

G. Pavement marking plan(s).

H. Utility contact sheet listing the contact names and phone numbers for each utility having facilities within the project limits

I. Note Sheet.

J. Witness and benchmark sheet(s).

K. Soil boring log sheet(s). Soil boring information will be provided by MDOT.

L. Project specific Special Details

   All plans, special provisions, estimates, and other project related items shall meet MDOT requirements and detailing practices (i.e., format, materials, symbols, patterns, and layout) or as otherwise directed by the Project Manager. All plans, specifications, and other project related items are subject to review and approval by MDOT.

PROJECT SCHEDULE:

The Consultant shall use the following events to prepare the proposed implementation schedule as required in the Guidelines for the Preparation of Responses on Assigned Design Services Contracts. These dates shall be used in preparing the Consultant's Monthly Progress Reports.

MDOT
Preconstruction Tasks
Consultant Checklist
P/PMS Form Only

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

Version 13
Updated
03-02-2015

For questions on specific tasks, refer to the P/PMS Task Manual located on the MDOT Website.
For assistance in accessing this manual, please contact:
Dennis Kelley: (517) 373-4614

Please indicate with a check in the box next to each task number whether you believe that task will require consultant involvement on the job. Milestones (a specific event at a point in time) are italicized and underlined. See the P/PMS Task Manual for more details. Scheduling assistance may be accomplished with estimated completion dates. While not part of P/PMS, an Authorization Milestone and Post-Design Tasks have been included for your reference.

STUDY (EARLY PRELIMINARY ENGINEERING)

YES	NO	P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY (mm/dd/yyyy)
		CONSULTANT CONTRACT AUTHORIZATION/EXECUTION	/ /
		INFORMATION GATHERING/STUDIES	
☐	☐	1115 Traffic Data Collection for Studies	/ /
☐	☐	1120 Prepare Traffic Analysis Report for Studies	/ /
☐	☐	1125 Traffic Capacity Analysis for Studies	/ /
☐	☐	1155 Request/Perform Safety Analysis for Studies	/ /
☐	☐	1300 Traffic Impact Study	/ /
☐	☐	1350 Determine Need for Interstate Access Change Request	/ /
☐	☐	1400 Feasibility Study	/ /
☐	☐	1500 Corridor Study	/ /
☐	☐	1555 Interstate Access Change Request	/ /
☐	☐	*155M FHWA Approval of Interstate Access Change Request*	/ /
☐	☐	1600 Access Management Study Plan	/ /
☐	☐	1700 Other Miscellaneous Studies	/ /
		EPE SCOPING ANALYSIS	
☐	☐	2100 Scope Verification and Initiation of EPE Activities	/ /
☐	☐	2115 Prepare Traffic Analysis Report for EPE/Design	/ /

☐	☐	2120	Traffic Data Collection for EPE/Design	/	/
☐	☐	2125	Traffic Capacity Analysis for EPE/Design	/	/
☐	☐	2130	Prepare Project Purpose and Need	/	/
☐	☐	*213M*	*Concurrence by Regulatory Agencies with the Purpose and Need*	/	/
☐	☐	2140	Develop and Review Illustrative Alternatives	/	/
☐	☐	2155	Request/Perform Safety Analysis for EPE/Design	/	/
☐	☐	2160	Prepare and Review EIS Scoping Document	/	/
☐	☐	*216M*	*Public Information Meeting*	/	/

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

STUDY (EARLY PRELIMINARY ENGINEERING) (cont'd)

YES	NO	P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)	
		EPE DRAFT ANALYSIS			
☐	☐	2310	Conduct Technical SEE Studies	/	/
☐	☐	2311	Cultural Resources Survey	/	/
☐	☐	2312	Recreational Survey – Section 4(f)/6(f)	/	/
		EPE DRAFT ANALYSIS (cont'd)			
☐	☐	2313	Endangered Species Survey	/	/
☐	☐	2314	Wetland Assessment	/	/
☐	☐	2315	Wetland Mitigation	/	/
☐	☐	2316	Other Technical Reports	/	/
☐	☐	2321	Prepare for Aerial Photography	/	/
☐	☐	2322	Finish/Print Aerial Photography	/	/
☐	☐	2330	Collect EPE Geotechnical Data	/	/
☐	☐	2340	Develop and Review Practical Alternatives	/	/
☐	☐	*233M*	*Aerial Photography Flight*	/	/
☐	☐	2360	Prepare and Review EA	/	/
☐	☐	*236M*	*Approval of EA by FHWA*	/	/
☐	☐	2370	Prepare and Review Draft EIS	/	/
☐	☐	*237M*	*Approval of Draft EIS by FHWA*	/	/
☐	☐	2380	Distribute EA	/	/
☐	☐	*238M*	*Public Hearing for EA*	/	/
☐	☐	2390	Distribute DEIS	/	/
☐	☐	*239M*	*Public Hearing for DEIS*	/	/
		EPE FINAL ANALYSIS			
☐	☐	2510	Determine and Review Recommended Alternative	/	/
☐	☐	*250M*	*Concurrence by Reg Agencies with Recom Alternatives*	/	/

☐	☐	2525	Prepare and Review Engineering Report	/	/
☐	☐	2530	Prepare and Review Request for FONSI	/	/
☐	☐	*252M*	*Approval of FONSI by FHWA*	/	/
☐	☐	2540	Prepare and Review FEIS	/	/
☐	☐	*254M*	*Approval of FEIS by FHWA*	/	/
☐	☐	2550	Obtain ROD	/	/
☐	☐	*255M*	*ROD Issued by FHWA*	/	/
☐	☐	2570	ITS Concept of Operations	/	/
			CONTAMINATION INVESTIGATION		
☐	☐	2810	Project Area Contamination Survey (PCS)	/	/
☐	☐	2820	Preliminary Site Investigation (PSI) for Contamination	/	/

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING - DESIGN

YES	NO	P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)	
		DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION			
x	☐	3130	Verify Design Scope of Work and Cost	/	/
☐	☐	3310	Prepare Aerial Topographic Mapping	/	/
☐	☐	3320	Conduct Photogrammetric Control Survey	/	/
☐	☐	3321	Set Aerial Photo Targets	/	/
☐	☐	3325	Geotechnical Structure Site Characterization	/	/
x	☐	3330	Conduct Design Survey	/	/
☐	☐	3340	Conduct Structure Survey	/	/
☐	☐	3350	Conduct Hydraulics Survey	/	/
x	☐	3360	Prepare Base Plans	/	/
x	☐	*311M*	*Utility Notification*	/	/
☐	☐	3365	Pre-Conceptual ITS Design and Meeting	/	/
☐	☐	3370	Prepare Structure Study	/	/
☐	☐	3375	Conduct Value Engineering Study	/	/
x	☐	3380	Review Base Plans	/	/
☐	☐	3385	Preliminary Load Rating	/	/
x	☐	*332M*	*Base Plan Review (Pre-GI Inspection)*	/	/
☐	☐	3390	Develop the Maintaining Traffic Concepts	/	/
		PRELIMINARY PLANS PREPARATION			
☐	☐	3500	Develop Transportation Management Plan	/	/
☐	☐	3510	Perform Roadway Geotechnical Investigation	/	/
☐	☐	3520	Conduct Hydraulic/Hydrologic and Scour Analysis	/	/

☐	☐	3522	Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices	/	/
☐	☐	3530	Geotechnical Foundation Engineering Report	/	/
☐	☐	3535	Conduct Str. Review for Arch. & Aesthetic Improvements	/	/
☐	☐	3540	Develop the Maintaining Traffic Plan	/	/
x	☐	3551	Prepare/Review Preliminary Traffic Signal Design Plan	/	/
☐	☐	3552	Develop Preliminary Pavement Marking Plan	/	/
☐	☐	3553	Develop Preliminary Non-Freeway Signing Plan	/	/
☐	☐	3554	Develop Preliminary Freeway Signing Plan	/	/
☐	☐	3555	Prepare/Review Preliminary Traffic Signal Operations	/	/
☐	☐	3570	Prepare Preliminary Structure Plans	/	/
x	☐	3580	Develop Preliminary Plans	/	/
☐	☐	3585	Final ITS Concept Design and Meeting	/	/
x	☐	3590	Review The Plans	/	/
x	☐	*352M*	*THE Plan Review Meeting*	/	/
☐	☐	3595	Conduct ITS Structure Foundation Investigation	/	/

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING - DESIGN (cont'd)

YES	NO	P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)	
		UTILITIES			
x	☐	3610	Compile Utility Information	/	/
☐	☐	3615	Compile ITS Utility Information	/	/
☐	☐	3650	Coordinate RR Involvement for Grade Separations	/	/
x	☐	3655	Coordinate RR Involvement for At-Grade Crossings	/	/
x	☐	3660	Resolve Utility Issues	/	/
x	☐	*360M*	*Utility Conflict Resolution Plan Distribution*	/	/
x	☐	*361M*	*Utility Meeting*	/	/
☐	☐	3670	Develop Municipal Utility Plans	/	/
☐	☐	3672	Develop Special Drainage Structures Plans	/	/
☐	☐	3675	Develop Electrical Plans	/	/
☐	☐	3680	Preliminary ITS Communication Analysis	/	/
☐	☐	3690	Power Design (Power Drop in Field)	/	/
		MITIGATION/PERMITS			
☐	☐	3710	Develop Required Mitigation	/	/
☐	☐	3720	Assemble Environmental Permit Applications	/	/
☐	☐	3730	Obtain Environmental Permit	/	/
		FINAL PLAN PREPARATION			

☐	☐	3815	Geotechnical Structure Design Review	/	/
x	☐	3821	Prepare/Review Final Traffic Signal Design Plan	/	/
☐	☐	3822	Complete Permanent Pavement Marking Plan	/	/
☐	☐	3823	Complete Non-Freeway Signing Plan	/	/
☐	☐	3824	Complete Freeway Signing Plan	/	/
☐	☐	3825	Prepare/Review Final Traffic Signal Operations	/	/
☐	☐	3830	Complete the Maintaining Traffic Plan	/	/
x	☐	3840	Develop Final Plans and Specifications	/	/
x	☐	*380M*	*Plan Completion*	/	/
☐	☐	3850	Develop Structure Final Plans and Specifications	/	/
x	☐	3870	Hold Omissions/Errors Check (OEC) Meeting	/	/
☐	☐	3875	Final Load Rating	/	/
x	☐	*387M*	*Omissions/Errors Checks Meeting*	/	/
x	☐	*389M*	*Plan Turn-In*	/	/
☐	☐	3880	CPM Quality Assurance Review	/	/
☐	☐	3890	Final ITS Communication Analysis	/	/

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING – RIGHT OF WAY

YES	NO	P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)	
		EARLY RIGHT OF WAY WORK			
☐	☐	4100	Real Estate Pre-Technical Work (combines 411M, 4120)	/	/
☐	☐	4150	Real Estate Technical Work (combines 4130, 4140)	/	/
x	☐	*413M*	*Approved Marked Final ROW*	/	/
		ROW APPRAISAL			
☐	☐	4350	Real Estate Appraisals (combines 4411, 4412, 4413, 4420)	/	/
		ROW ACQUISITION			
☐	☐	4450	Real Estate Acquisitions (combines 4430, 4710, 4720)	/	/
☐	☐	4510	Conduct Right Of Way Survey & Staking	/	/
x	☐	*442M*	*ROW Certification*	/	/

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

POST LETTING/AWARD TASKS (for reference only)

YES	NO	P/PMS TASK NUMBER AND DESCRIPTION		DATE TO BE COMPLETED BY (mm/dd/yyyy)
☐	☐	4810	Complete Acquisition Process	/ /
☐	☐	4820	Manage Excess Real Estate	/ /
☐	☐	4830	Provide Post-Certification Relocation Assistance	/ /
☐	☐	4910	Conduct ROW Monumentation	/ /
x	☐	5010	Construction Phase Engineering and Assistance	/ /
x	☐	5020	Prepare As-Built Drawings	/ /

FOR YOUR INFORMATION

For questions on specific tasks, refer to the P/PMS Task Manual located on the MDOT Bulletin Board System.

For assistance in accessing this manual, please contact one of following:

Dennis Kelley: (517) 373-4614

CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:

Compensation for this project shall be on an **actual cost plus fixed fee** basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee. The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

All billings for services must be directed to the Department and follow the current guidelines. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

MDOT will reimburse the consultant for vehicle expenses and the costs of travel to and from project sites in accordance with MDOT's Travel and Vehicle Expense Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Travel_Guidelines_05-01-13_420289_7.pdf?20130509082418. MDOT's travel and vehicle expense reimbursement policies are intended primarily for construction engineering work. Reimbursement for travel to and from project sites and for vehicle expenses for all other types of work will be approved on a case by case basis.

MDOT will pay overtime in accordance with MDOT's Overtime Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Overtime_Guidelines_05-01-13_420286_7.pdf?20130509081848. MDOT's overtime reimbursement policies are intended primarily for construction engineering work. Overtime reimbursement for all other types of work will be approved on a case by case basis.

ATTACHMENT A

SCOPE OF SERVICE
FOR
DESIGN SURVEYS
March 2013

Survey Limits: As needed for Design, Right of Way, and Construction. A description of survey limits detailing length, width and cross roads must be included in the Survey Work Plan.

NOTES: The Selected Consultant shall discuss the scope of this survey with an MDOT Region Surveyor or an MDOT Lansing Design Surveyor before submitting a priced proposal.

The Selected Consultant surveyor must contact the Region or TSC Traffic and Safety Engineer for work restrictions in the project area prior to submitting a priced proposal.

A **detailed Survey Work Plan <u>must</u>** be included in the project proposal. A **spreadsheet estimate** of hours by specific survey task such as horizontal control, leveling, mapping, alignment determination, etc., **<u>must</u>** be included in the **priced proposal**.

It is the responsibility of the Professional Surveyor to safeguard all corners of the United States Public Land Survey System, published Geodetic Control and any other Property Controlling corners that may be in danger of being destroyed by the proposed construction project.

GENERAL REQUIREMENTS:

1. Surveys must comply with **all Michigan law** relative to land surveying.

2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan, according to Public Act 299 of 1980.

3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, Photogrammetric Ground Control, and/or Geodetic Control must be completed by a survey firm which is pre-qualified by MDOT for that category.

4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2013. Please contact the MDOT Design Survey office to clarify any specific questions regarding these standards.

5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities

Coordination and Permits Section.

6. Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting (which must be minimized), and an MDOT contact person (the MDOT Project Manager or designate).

7. The Consultant must contact any and all Railroads prior to commencing field survey on railroad property. The cost for any permit, flaggers and/or training that is required by the Railroad will be considered as a direct cost, but only if included in the Consultant's priced proposal.

8. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job.

9. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.

10. Measurements, stationing, recorded data, and computations must be in **International Feet**, unless specified otherwise by the MDOT Project Manager.

11. Coordinate values shall be based upon the Michigan State Plane coordinate system NAD83. All elevations must be based upon the North American Vertical Datum of 1988 (NAVD88). The datums must be clearly stated in the Survey Work Plan and subsequent submittal.

12. **If paper copies are required**, the survey notes must be submitted to the Design Survey Unit in 10" by 12" divided portfolios with flap covers. As many portfolios should be used as are needed to contain all of the required documents and Compact Discs (CD's) or DVD's. Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor". **Electronic submittal only unless specified otherwise.**

13. Each portfolio and CD must be labeled on the outside as in the following example:
Survey Notes for:
Route, Location and Project Limits [Various Locations in Delta and Menominee Counties]
Control Section(s) [21021, 21022, 21031]
Job Number [125834D]
Date [*of submittal*]
By [*Name of Firm*]
Michigan Professional Surveyor [ ] License # [ ]

14. Each submittal is to be divided into six sections. These sections are to be labeled as follows: **Administrative, Alignment, Control**, **Property**, **Mapping**, and **Miscellaneous**.

15. To be included in the Administrative section shall be a copy of the **Survey Project Portfolio QA/QC Check-off list**, March 2013 revision, available from the MDOT Survey Support Unit. This document shall be signed and certified by the Professional Surveyor responsible for the project QA/QC. It is highly recommended that the consultant become familiar with this document prior to preparing the proposal and again prior to assembling the final portfolio. **Failure to use and include this document may result in the immediate return of the project portfolio for completion.**

16. **All data**, whether electronic or paper, **must be recorded on non-rewritable Compact Discs (CD's) or DVD's**. All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. It is not necessary to include raw survey data files in the Adobe file. CD's must be organized in the same manner as the portfolio, such as by Administrative section, Control section, etc. A Table of Contents in Adobe Acrobat format is required that has all .PDF pages of the CD bookmarked/linked so each place in the .PDF archive can be accessed with a single click of the computer mouse. Specified format files such as Microsoft Word and MicroStation must have separate access in native format outside of the .PDF file.

17. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to an MDOT Survey Consultant Project Manager or MDOT Region Surveyor. **The MDOT Project Manager must be copied on any and all correspondence.**

At the completion of this survey for this project, legible copies of all field survey notes, all electronic data, and all research records obtained for this project will be considered the property of MDOT and **must be sent to** the MDOT, Design Division, Supervising Land Surveyor, P.O. Box 30050, Lansing, MI 48909. Please use MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals. A copy of this transmittal form must also be sent to the MDOT Project Manager for Design.

Acceptance of this survey by the MDOT Supervising Land Surveyor and/or the MDOT Project Manager does not relieve the Consultant of any liability for the content of the survey.

WORK RESTRICTIONS

The Selected Consultant, and the Selected Consultant only, is advised to discuss Traffic Control scenarios with the MDOT Traffic and Safety Engineer at the closest MDOT TSC prior to submitting a priced proposal.

No work shall be performed or lane closures allowed during the Memorial Day, July 4th, or Labor Day holiday periods, as defined by the MDOT Project Manager or representative specifically designated by the Project Manager (the Traffic & Safety Engineer at the MDOT

TSC).

Work on weekends, if approved, shall be as directed by the MDOT Project Manager or Designate.
The Consultant must call the MDOT Region or TSC Traffic and Safety Engineer before beginning work to inform him or her of surveying activity in the area. The MDOT Region or TSC must be notified at least two weeks prior to lane closures so advance notice can be posted on the Web site.

Traffic shall be maintained by the Consultant throughout the project in accordance with Sections 812, 922, 103.05 and 103.06 of the *Standard Specifications for Construction*, 2012 edition, http://mdotwas1.mdot.state.mi.us/public/specbook/2012/ and any Supplemental Specifications currently in effect clarifying the Standard Specifications for Construction. All traffic control devices shall conform to the current edition, as revised, of the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD). All warning signs for maintenance of traffic used on this project shall be fabricated with prismatic retro-reflective sheeting, and shall be set up five feet above ground.

The Consultant shall use MDOT standard "maintaining traffic" typicals for any and all closures. Typical MDOT traffic control diagrams are available on line at http://mdotwas1.mdot.state.mi.us/public/tands/plans.cfm

COORDINATION WITH OTHER CONTRACTS IN THE VICINITY

The Consultant shall coordinate operations with contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

MDOT maintenance crews and/or Contract Maintenance Agencies may perform maintenance work within or adjacent to the CIA. The Maintenance Division of MDOT and/or Contract Maintenance Agency will coordinate their operations with the MDOT Project Manager or Designate to minimize the interference to the Consultant.

The Consultant must contact the Development Engineer at the nearest MDOT TSC for information regarding project coordination.

The Consultant's attention is called to the requirements of cooperation with others as covered in Article 104.08 of the 2012 Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

No claim for extra compensation or adjustment in contract unit prices will be allowed on account of delay or failure of others to complete work unit scheduled.

POST SURVEY CLEAN-UP

Once the survey is complete, all stakes must be removed from the MDOT median and ROW to

aid the maintenance crews and adjacent property owners. All benchmarks and control points and their witnesses must remain in place.

FINAL REPORT: DELIVERABLES

The final report for this project shall include:

1. In the first directory on the CD, and first pocket of the portfolio if requested, labeled **ADMINISTRATIVE**, the following will appear:

    a. MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL"

    b. The project's Professional Surveyor's Report on company letterhead, consisting of:

        i) A comprehensive synopsis of the work performed on this project, signed and sealed by the project's Professional Surveyor.

        ii) The source and methods used to establish the project horizontal and vertical control and alignment(s) for this project.

        iii) A detailed explanation of anything discovered during the survey of this project that may create a problem for the designer or another surveyor.

    c. CD or DVD with all documents scanned or converted into a Master PDF file, named (JN) 125834C_TaskXXXX. Each Section and sub-section of this PDF file must be bookmarked for easy retrieval. An example can be provided upon request.

    d. MDOT QA/QC Portfolio Checklist (revised March 2013).

2. In the second directory on the CD, and second pocket of the portfolio if requested, labeled **ALIGNMENT**, the following will appear:

    a. An annotated MicroStation drawing of the alignment(s), showing:

        i) A statement defining the alignment(s) as **legal or non-legal,** and a key box with description of type and origin of al alignments, such as 1958 Survey Alignment,1966 Construction Alignment or, 2013 As Constructed Alignment

        ii) Stationing, source of stationing, and station equation to existing stationing

        iii) Curve data, including coordinates of P.I.s, P.C.s, and P.T.s.

        iv) Physical alignment points found or set

        v) Control points

vi) Reference lines and angles of crossing (if appropriate)

vii) Government corners with bearing and distance ties to alignment along the government lines.

b. Witness list for the alignment points found or set, which shows coordinates, stationing and four witnesses for each alignment point. WITNESS LISTS MUST USE ONLY UPPER CASE LETTERS.

c. LCRC's for legal alignment points with physical monumentation, found or set.

3. In the third directory on the CD, and third pocket of the portfolio if requested, labeled **CONTROL**, the following will appear:

   a. Documentation of horizontal and vertical datum sources.

   b. OPUS documentation, long version.

   c. Least squares adjustments for the horizontal and vertical control.

   d. It is not necessary to submit electronic raw survey data in hardcopy form, nor in the .PDF file.

   e. Text files which contain the witness lists for the horizontal alignment points, horizontal control points, benchmarks and government corners. All witness lists must note the datum(s), a combined scale factor for state plane grid-to-ground conversion, and an example thereof. WITNESS LISTS MUST USE ONLY UPPERCASE LETTERS.

   f. An MDOT-formatted Microsoft Word file, **SurveyInfoSheet.doc**, showing the data in e. above, using ONLY UPPER CASE LETTERS.

4. In the fourth directory on the CD, and fourth pocket of the portfolio if requested, labeled **PROPERTY**, the following will appear:

   a. Tax maps and descriptions with owner names, addresses and phone numbers, if Right of Way is to be acquired, or if riparian ownerships are required.

   b. Maps, plats, and recorded surveys.

   c. Documents such as plats, Act 132 Certificates and/or tax maps marked with point numbers as property ties, if Right of Way is to be acquired.

d. Legible **recorded** copies of all Land Corner Recordation Certificates (LCRC) filed for the government corners (PLSS corners and Property Controlling Corners) used for computations and/or in danger of obliteration by impending construction.

5. In the fifth directory on the CD, and fifth pocket of the portfolio if requested, labeled **MAPPING**, the following will appear:

   a. Mapping files in MDOT MicroStation V8i format in the current MDOT workspace, and also converted to .PDF format. ALL POINT AND LINE DESCRIPTIONS MUST USE ONLY UPPER CASE LETTERS. Naming convention: 125834C_PL_3D.dgn and 125834C_PL_2D.

   b. All Geopak design files produced by survey, including: .xml alignment files, triangle.dgn file, .dtm, .tin, and .gpk files.

   c. All field survey notes and electronic mapping data used for the project. It is not necessary to submit electronic raw survey data in hardcopy form, nor in the .PDF file.

   d. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.

6. In the sixth directory on the CD, and sixth pocket of the portfolio if requested, labeled **MISCELLANEOUS**, the following will appear:

   a. Any photographs taken for clarity of an area

   b. Any newspaper clippings related to the project

   c. Any information not covered in this scope that will be of benefit to the designer or another surveyor

ATTACHMENT B

SCOPE OF SERVICE
FOR
SUBSURFACE UTILITY ENGINEERING (SUE)
April 2013

DEFINITIONS:

SUE - A branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design. (ASCE Standard 38-02)

Utility Quality Level - A professional opinion of the quality and reliability of utility information. Such reliability is determined by the means and methods of the professional. Each of the four existing utility data quality levels is established by different methods of data collection and interpretation. (ASCE Standard 38-02)

ASCE Standard 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" has been used as a guideline for the development of this Scope of Services. Depending on the project, the Consultant may be asked to provide some or all the work identified in utility quality levels A through D.

UTILITY QUALITY LEVEL D - Information derived from existing records or oral recollections.

MDOT shall -

- Provide a preliminary list of utilities, with contact information, that may have facilities located within the project limits. This list may not be 100% accurate and/or complete.
- Provide assistance, if necessary, in contacting utilities to obtain facility records.
- Provide Consultant with utility responses and facility records if utility information solicitation has been performed.
- Organize and host a kick-off meeting including Consultant, MDOT and utilities prior to Consultant beginning SUE services.

Consultant shall –

- Take appropriate steps to identify all known and unknown utility facilities within the project limits. Some sources of information may include utility owners, visual site inspection, internet search, Public Service Commission, County Clerk's office, Miss Dig Design Ticket, etc.
- Solicit utility information as outlined in Chapter 14 of the MDOT Road Design Manual, section 14.16 (Request for Utility Information), if not already completed by MDOT.

- Attend and participate in kick-off meeting with MDOT and utilities. Consultant is expected to provide an explanation of SUE services and what each participant's role is in the SUE process.

UTILITY QUALITY LEVEL C - Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to utility quality level D information.

Consultant shall -

- Complete utility quality level D, as necessary, in order to complete utility quality level C.
- Obtain all necessary permission or permits from MDOT, county, municipality, or other entity, which allow the Consultant to work within the project limits.
- Survey visible above-ground utility facilities and correlate this information with existing utility records.

UTILITY QUALITY LEVEL B - Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Utility quality level B data should be reproducible by surface geophysics at any point of their depiction. This underground information is surveyed to plus or minus one foot accuracy and reproduced onto plan documents.

MDOT shall –

- Provide survey control for the purposes of tying the designated utilities to the State Plane Coordinate System, and vertical system being North American Vertical Datum of 1988 (NAVD88).
- MDOT will also furnish existing highway plans showing topography, horizontal alignments, etc. and/or design mapping using current MDOT Workspace, if available.

Consultant shall –

- Complete utility quality levels C and D, as necessary, in order to complete utility quality level B.
- Provide materials, equipment and personnel necessary for traffic control as directed by the appropriate MDOT Transportation Service Center (TSC) and the MDOT Workzone Mobility Policy. Consultant may be required to work off peak hours. Consultant shall not work on weekends, national holidays, state holidays, or days proceeding said holidays without written permission from the TSC.
- Provide materials, equipment and personnel, including surveying capability, to designate, mark, and record, the horizontal location of all existing underground utilities and major laterals. Storm sewers are not to be designated unless specifically required by MDOT. Typically, horizontal designating of underground utilities shall be accurate to plus or minus one foot.

- Prepare CADD files containing horizontal utility depictions using the conventions indicated in the MDOT Road Design Manual.

UTILITY QUALITY LEVEL A - Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is used to reduce the potential for utility damage. Precise horizontal and vertical locations, as well as other utility attributes, are shown on plan documents. Accuracy is typically set to 0.05 decimal feet (approximately 5/8") vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the Project Manager.

MDOT shall –

- Furnish preliminary highway plans showing areas requiring test holes.

Consultant shall –

- Complete utility quality levels B, C, and D, as necessary, in order to complete utility quality level A.
- Comply with State law requirements prior to performing excavation activities.
- Coordinate with the utilities as required.
- Excavate test holes in a manner such as vacuum excavation, hand digging, etc. that prevents damage to utility wrappings, coatings, or other protective coverings.
- Neatly cut and remove existing pavement, with cut area not to exceed 225 square inches, using a method enabling vertical and horizontal utility exploration.
- Be responsible for any damage to the utility during excavation.
- Backfill and compact test holes with approved material.
- Provide a permanent pavement restoration for test holes performed through the roadway pavement. If the test hole is performed in an area other than the roadway pavement, the area disturbed shall be restored to equal or better than the condition before excavation.
- Tie all vertical elevations to a minimum of two checked benchmarks. The accuracy of these benchmark checks shall be in accordance with surveying practices that ensure vertical surveying of underground utilities is accurate to 0.05 decimal feet.

DELIVERABLES - The final deliverables shall be sealed by a licensed professional civil engineer registered in the State of Michigan. The Consultant is responsible for the accuracy of all information presented to MDOT. Deliverables shall be sent to the MDOT Project Manager.

- CADD files containing horizontal utility depictions shall be submitted to MDOT on CD/DVD in CADD format utilizing MDOT's current version of MicroStation and MDOT Workspace.
- For all test holes performed, the following information shall be submitted to MDOT on CD/DVD in CADD format utilizing MDOT's current version of MicroStation and MDOT Workspace:
  - Elevation of top of utility tied to project vertical datum
  - Elevation of existing grade over utility at the test hole
  - Horizontal location referenced to project coordinate datum
  - Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems
  - Size, type and owner of utility facility
  - Utility structure material composition and condition, when possible